SECTION 9.0 – SECTION 61 FINDINGS

9.0 SECTION 61 FINDINGS

This section of the FEIR presents the Section 61 Findings for the New Bedford/Fairhaven Harbor DMMP, as required under the Massachusetts Environmental Policy Act (MEPA) regulations at 301 CMR 11.12. Section 11.07 of the MEPA regulations requires Section 61 Findings in the EIR for a project. As a state agency, CZM is bound by the statutory requirement under MEPA to take all feasible measures to avoid or minimize damage to the environment. This section presents Section 61 Findings for the preferred alternative PIN CAD for Harbor.

9.1 Preferred Alternative - Popes Island North CAD Cell Area

Potential environmental impacts associated with selection of the preferred alternative CAD site in the Harbor, PIN, include those associated with sediments and water quality, benthos, finfish, wetlands, wildlife, endangered species, navigation and shipping, land use, air quality and noise, historic and archaeological resources and recreation areas.

9.1.1 Sediments and Water Quality

Construction of preferred alternative CAD cell(s) including placement of UDM in the cell(s) will lead to temporary impacts to the existing sedimentary environment at the site, including mortality of existing benthic organisms and the alteration of existing sediment composition. The results from the sediment grain-size analysis conducted as part of this latest survey for the FEIR showed that fine-grained silt and clay were the predominant sediment type found at the PIN and total organic carbon was high. These results agree with those found by the SPI survey in the DEIR conducted in 1999 by CZM. The overwhelmingly dominant species found at the field sites sampled for the FEIR were opportunistic polychaetes (*Mediomastus ambiseta* and *Streblospio benedicti*). These two polychaetes are considered successional Stage I species.

The SPI survey (1999) and the benthic infaunal analysis (2002) are remarkably consistent with one another. This provides strong evidence to support the fact that the communities in the Lower New Bedford/Fairhaven Harbor, in the area of the two proposed CAD cell sites, are dominated by opportunistic species that can tolerate disturbed conditions. Similar opportunistic communities were observed at the Boston Harbor Navigational Improvement Project (BHNIP) CAD cell sites in 1999 (ENSR, 2001). The investigation at the BHNIP CAD cell site showed that, within a year of filling and capping, the opportunistic benthic infauna had re-colonized the sediment surfaces. It is highly likely that construction, filling, and capping events at the proposed New Bedford/Fairhaven Harbor CAD cell sites will temporarily impact the benthic communities. However, similar to BHNIP cells the PIN cell capped surfaces will be recolonized rapidly by similar opportunistic species. Eventually, the benthic community will return to a pre-dredging composition. Adults and larvae from adjacent areas, which were not dredged, will provide recruits to the disturbed sites.

Water quality impacts from development of the PIN CAD cell site(s) in New Bedford/ Fairhaven Harbor are predicted through ground-truthed water quality testing and hydrodynamic modeling of this FEIR, to be temporary and minor in nature. The location of the proposed disposal sites within the Inner Harbor, above the Hurricane Barrier, above Popes Island minimizes potential

storm-induced wave action impacts, minimizing the impacts to water quality from the resuspension of cap sediments. Hydrodynamic data collected during the field study required for the FEIR showed the PIN CAD area to be depositional where depth-averaged currents had a mean speed of 2.3 cm/s (0.5 kt./hr.) to the southeast, with a maximum value 15.0 cm/s (0.29 kt./hr.) during this period. Currents at PIN are therefore not erosional. According to toxicity tests using sediments from the NBH-202 station, the combination of multiple pollutants was the cause of the observed acute toxicity effects. For example, half the toxicity to mysids was due to PCBs and the other half was due to a combination of copper and ammonia. From analysis of these results it was concluded that a dilution to less than 2.2% of the elutriate concentration would be protective. Detailed dredged material transport analysis for this FEIR showed that for any environmental condition, area coverage for a concentration of 2.2% of the elutriate level was always smaller than the PIN-CAD area (1.67×10^5 m^2 [41 ac]). The largest area coverage (1.2×10^5 m^2 [30 ac]) of the 2.2% elutriate concentration occurred for a release during calm conditions while the smallest coverage (1.0×10^4 m^2 [2.5 ac]) occurred for a release during northwesterly winds. Other sediments with lower elutriate concentrations, and presumably lower toxicity, will affect smaller areas. The placement of four-feet of coarse-grained sand as a final cap will also minimize sediment resuspension at the preferred alternative site.

9.1.2 Benthos

Benthic resources include marine epifauna and infaunal invertebrates, and submerged aquatic vegetation. As described above, the community structure of benthic organisms is typically a function of sediment characteristics and water quality (Day, et. al., 1989). Dredging and disposal of sediment may impact benthic marine organisms outside the project area, by altering preferred microhabitat (i.e., sediment composition) or via interference with the organism's feeding type. Therefore, impacts to benthic epifauna and infaunal sessile invertebrates such as various bivalve mollusks and echinoderms are expected. However CAD cell construction involves dredging to create sub-aqueous pit(s). To create the pit(s) the benthic community of the CAD cell design footprint will be removed. Two species important species of shellfish, Northern quahogs (Mercenaria mercenaria) and soft-shell clams (Mya arenaria) occupy the footprint.. Since the shellfish of PIN Cad cell site area are known to be contaminated above limits allowable for human consumption they will be lost in the process. According to DMF, mitigation for the shellfish loss will be replacement based on DMF calculations on a project-by-project basis. The area of the disposal sites are closed to shellfishing. Additionally, there were no eelgrass beds identified in the area of the proposed disposal site. The closest eelgrass areas are located outside of the Hurricane Barrier.

9.1.3 Finfish

Construction and disposal activities at the preferred alternative sites will have little impact on existing fisheries resources. Commercial and recreational fishing within New Bedford/ Fairhaven Harbor is prohibited. Highly migratory sport fish species, including striped bass and bluefish will not be impacted by cell construction at the PIN CAD cell area. Diadromous species such as catadramous species; American eels and anadromous species; rainbow smelt and blueback herring will likewise not be impacted by cell construction. All the above-mentioned finfish species are fully capable of avoiding CAD cell construction activities. However, winter

flounder, an important recreational species in the area that frequents neritic waters, are bottom spawners. Larvae are known to swim off bottom and drift back down to rest (Bigelow and Shroeder, 1953). Winter flounder eggs doe not carry oil globules, therefore they have negative buoyancy and they incubate on bottom. Timing of cell construction and dredged material disposal activities at the preferred PIN CAD cell site area should be set to avoid the spawning and egg development cycle of demersal fish to avoid impacts to these resources.

9.1.4 Wetlands

There would be no impacts to coastal wetlands or salt marsh. The entire area of the preferred alternative PIN CAD cell area is sub-tidal, therefore, no coastal wetlands exist there. The site is, however, classified as Land Under the Ocean within a DPA under the Massachusetts Wetlands Regulations at 310 CMR 10.26. Under the regulations, a project impacting Land Under the Ocean in a DPA must minimize adverse impacts to water circulation and water quality, including fluctuations in dissolved oxygen, temperature or turbidity, or the addition of pollutants. As discussed in the preceding section on water quality impacts, no adverse long-term impacts to water quality are expected from construction and dredged material disposal activities at the sites. Likewise, the impacts to water circulation are described in the preceding section. No adverse impacts are expected.

9.1.5 Wildlife

Wildlife impacts were adequately assessed in the DEIR and included those to avifauna, marine mammals, and marine reptiles. No shorebird breeding or foraging habitat is located within the confines of the preferred alternative PIN CAD site area, since these areas are generally intertidal or supratidal areas. Shorebird habitat in New Bedford/Fairhaven Harbor lies outside of the UDM disposal zone of influence. The nature of the disturbance (sub-tidal) dictates that impacts to nesting habitat would not occur. Since finfish will leave the area to avoid dredging and disposal impacts, piscivorous waterfowl will also avoid the impact areas as they follow departing finfish concentrations. Molluscivorous waterfowl tend to congregate in areas with high mollusk density such as the vicinity of shellfish beds and reefs. Since shellfish beds lie within the vicinity of the disposal areas or within the zones of UDM disposal influence, minimal, temporary impacts to molluscivorous waterfowl is expected.

The various species of whales and other cetaceans found in the region, occur far offshore of New Bedford/Fairhaven, rarely, if ever, entering harbor waters. Therefore, the only marine mammal species commonly found in New Bedford/Fairhaven Harbor is the harbor seal, which frequent shorefront areas, not the deep water and muddy bottom conditions of the disposal site. The harbor seal is also highly mobile, and quite able to avoid cell construction and dredged material disposal events. Therefore, no impacts to marine mammals are expected.

Marine reptiles in the region are represented by sea turtles. Two species of marine turtles that occur in the North Atlantic are not commonly found in New Bedford/Fairhaven Harbor. They occur in the much deeper open ocean waters off-shore and the north Atlantic Ocean and rarely, if ever, enter New Bedford/Fairhaven Harbor. The distance from the PIN CAD cell area to the sea

turtle habitat will preclude any impact to these species or their habitat from either cell construction or dredged material disposal activities.

9.1.6 Endangered Species

Although five whale and two sea turtle species listed by the USFWS occur in the ocean waters outside New Bedford/Fairhaven Harbor, there is no indication that these species occur at the preferred alternative PIN CAD cell area within the harbor. Therefore, no impacts to endangered species habitat from CAD cell construction and dredged material disposal activities will occur.

9.1.7 Navigation and Shipping

New Bedford/Fairhaven Harbor has maintained status as one of the leading fishing ports of the nation. The harvesting, processing and supporting industry to the local fishing industry is directly linked to the ability of vessels to navigate safely within New Bedford/Fairhaven Harbor. Continued access to shore-side locations is an integral component of the Harbor Plan's vision to maintain and expand existing maritime, industrial and recreational visitor harbor uses, to continue New Bedford/Fairhaven Harbor as a working, productive port and economic asset for the City, Town and Commonwealth. PIN CAD cell area construction activities will be situated north of most harbor traffic outside navigable channels. Seasonal recreation boating in and about New Bedford/Fairhaven Harbor is enjoyed by residents and visitors. Any dredged material disposal activities off the PIN CAD cell area in New Bedford/Fairhaven Harbor channels will be scheduled to avoid conflicts with commercial and recreational vessel movements, avoiding temporary impacts to existing navigation and shipping. Therefore, there will be no permanent impacts to existing commercial or recreational navigation and shipping in New Bedford/Fairhaven Harbor.

9.1.8 Land Use and Consistency with the Harbor Plan

The proposed CAD disposal sites are entirely within sub-tidal waters, therefore there would be no direct negative impacts to existing shore front land use patterns surrounding New Bedford/Fairhaven Harbor. The PIN CAD cell area is submerged and therefore it will not interrupt view-sheds from land. Positive indirect impacts will result from the development of the PIN CAD cell area. The development of PIN CAD cell area will allow for environmentally sound, cost effective disposal of UDM from New Bedford/Fairhaven Harbor dredging projects, maintaining the economic viability of existing marine facilities and existing land use patterns along the New Bedford/Fairhaven Harbor shoreline.

CAD cell development is consistent with the stated goals of the Harbor Plan. The Harbor Plan also encourages the coordination with the DMMP to develop a suitable alternative for disposal of UDM. As noted on the preceding paragraph, CAD cell development will encourage the completion of the anticipated public and private dredging projects in New Bedford/Fairhaven Harbor and provide a local disposal option for the UDM from those dredging projects.

9.1.9 Air Quality and Noise

Air quality and noise impacts from development of the PIN CAD cell site(s) in New Bedford/Fairhaven Harbor are expected to be temporary and minor. Air quality impacts from the disposal of dredged materials at the candidate disposal sites in Buzzards Bay are expected to be minor and temporary. Impacts will result from the operation of tugboat engines, and from the potential escape of odors from temporary storage of dredged material on barges (e.g., nitrogen oxide, NO_x).

Under the Enhanced Emissions and Safety Test (310 CMR 60.02), tug boats and dredge scows used in dredging are not required to undergo an emissions inspection because the boats are not defined as motor vehicles under 310 CMR 60.02. Emissions from disposal activities are managed through the use of proper emission controls on diesel engines under the guidance of the Massachusetts Diesel Retrofit Program. All towing equipment is strongly encouraged to be equipped with proper air pollution control equipment and mufflers.

The Massachusetts Diesel Retrofit Program (MDRP) is the primary component of the DEP Mobile Source Emissions Control Program that responds to the need to control diesel emissions generated on-site by heavy-duty construction vehicles. The goal of the MDRP is to help reduce adverse health impacts relating to emissions from diesel engines.

The DEP believes that retrofitting heavy-duty construction equipment is a very cost effective and efficient way to significantly reduce emissions of fine particulates and toxics into the ambient air, to mitigate adverse localized impacts, and improve the air quality for construction workers, while not adversely affecting the construction phase of major construction and development projects.

Air quality impacts will be minimized through the use of equipment that complies with emission standards applicable to equipment, use of proper emission controls, and the temporary nature of the activity. Temporary stockpiling on or near land of dredged material may result in minor air quality and odor impacts to adjacent properties due to anaerobic decomposition of organic materials in the dredged sediment. These odors will be minimized with the use of lime as necessary. Volatilization of organic compounds in the stockpiled dredged material is not expected to occur because the short duration of stockpiling activities will not allow for complete drying of the dredged material.

9.1.10 Historic and Archaeological Resources

The location of the preferred alternative PIN CAD cell area within the sub-tidal area of New Bedford/Fairhaven Harbor avoids direct and indirect impacts to nearby land-based local-, state- and federal-listed historic sites and districts.

Detailed underwater archeological surveys of the PIN CAD cell area were conducted for this FEIR (See Section 3-0). Numerous targets of interest, which do not represent hazards to the future dredging or PIN CAD cell construction operations were identified on the summary maps. None of the remote sensing targets appears to contain submerged cultural resources. No

additional underwater archeological investigation is recommended. Therefore, no impacts to underwater archaeological resources are expected at the PIN CAD cell area.

9.1.11 Recreation Areas

The PIN CAD cell area will not pose direct impacts to existing recreation areas from the construction or use of the proposed disposal sites. The Inner Harbor is closed to fishing an swimming, minimizing the potential for recreational conflict associated with PIN CAD area cell sites. CAD development will not have long-term impact movement of small draft recreational boats that may use this area currently. Any recreational boat moorings permitted by the Town of Fairhaven currently set in areas of the PIN CAD cell area would need to be moved temporarily during construction; however, they would be replaced following final capping. Potential recreational boating conflicts associated with the construction of the CAD disposal sites will be mitigated by clearly delineating the work area and issuing boating advisories. This temporary impact is minimized by the presence of other recreational boating opportunities areas in the Outer Harbor area and beyond.

9.2 Implementation of Mitigation Measures and Proposed Mitigation Implementation Schedule

Prior to the commencement of dredging projects, the PIN CAD disposal cells need to be dredged open. Dredging of the disposal cells will be completed during an environmentally favorable window to reduce the disturbance to marine life. Dredge limits and locations will be located by Geodetic Positioning System (GPS), which is a satellite positioning system, accurate to within a foot of the intended horizontal design limits. The dredge machinery will most likely be a large barge mounted crane with a clamshell bucket. The environmental bucket used for the UDM dredging portion of the project is expected to minimize resuspension of UDM in the water column. Floating semi-permeable turbidity barriers may be installed to minimize impacts from resuspended dredged sediment. The material will be removed to the final design depth and side slopes. The dredging contractor will also be compensated for an allowable over-dredge limit to ensure that the intended depths are achieved. The UDM CAD cell footprint material will be held in secure scows. Material underlying the UDM will be classified as suitable for unconfined disposal through DEP testing protocol. Suitable dredged materials (SDM) will be loaded into scows and shipped to the Buzzards Bay Disposal Site approximately 15 nautical miles from the Harbor and safely deposited. A predetermined volume of SDM will be retained in scows at the Harbor to be used as capping material for the specific PIN CAD cell.

Following the opening dredging of each disposal cell, maintenance UDM from the harbor will be dredged by mechanical means. After being dredged, the UDM will be placed on a dump scow and transported to the disposal cell, where the material will be deposited. After the completion of all UDM disposal the CAD cell will be capped, ultimately, long-term water quality protection and benthic recolonization will occur.

Potential mitigation for direct impacts will be determined during the permitting process through consultation with the appropriate agencies. The party responsible for the implementation of the required mitigation measures has not been identified to date. Potential entities include the

Massachusetts Department of Environmental Management, the US Army Corps of Engineers, or the City of New Bedford/Fairhaven operating through an existing or created public authority.

9.3 Draft Section 61 Finding

With the selection of the preferred alternative PIN CAD cell area for UDM disposal from New Bedford/Fairhaven Harbor, CZM finds that, with implementation of the mitigation measures listed above, all feasible means have been taken to avoid or minimize damage to the environment.